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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/889,053 | 03/13/2003 | Thomas Woods Keough | 7379M | 6283 |

27752 7590 01/03/2007
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| EXAMINER |
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WHALEY, PABLO S

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| ART UNIT | PAPER NUMBER |
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1631

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/03/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|-----------------|---------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/889,053 | KEOUGH ET AL. | |
| | Examiner | Art Unit | |
| | Pablo Whaley | 1631 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 8-16 is/are pending in the application.
- 4a) Of the above claim(s) 8-10,14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,11 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

NON-ELECTED INVENTION

Newly submitted claims 14-15 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 14-15 are directed to a materially distinct method comprising chemically distinct acidic moiety reagents that are outside of the scope of claims 1, 2, and 11-13, and 16. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-15 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

CLAIMS UNDER EXAMINATION

Claims herein under examination are claims 1, 2, 11-13, and 16. Claims 12-16 are newly added. This application contains claims 8-10 drawn to an invention nonelected with traverse in the response filed 11/14/2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied, as necessitated by amendment. They constitute the complete set presently being applied to the instant application.

CLAIM REJECTIONS - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C.102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 11 are rejected under 35 U.S.C. 102 (b) as being anticipated by Juhasz et al. (Proc. Nad. Acad. Sci. USA, Vol. 91, pp. 4333-4337). This rejection is necessitated by amendment.

Juhasz et al. teach a method for determining the molecular weights of highly acidic compounds complexed with basic polypeptides [Abstract], as in claims 1 and 11. More specifically, Juhasz et al. provide polypeptides comprising at least one N-terminus that contain sulfonic acid moieties, which the Examiner has broadly interpreted as an implicit teaching for "providing a polypeptide" and "providing a sulfonic acid" as in claims 1 and 11 (steps a and b). Furthermore, said complex comprising sulfonic acid moieties is further mixed with a peptide to create complex ions [p.4336, Col. 2, ¶ 3], which equates to claims 1 and 11, step c. Juhasz et al. also teach analyzing said derivatized mixture using MALDI to achieve remarkable sensitivity [p.4336, Col. 2, ¶ 3], as in claims 1 and 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following prior art publications are the basis for executing this rejection:

Claims 1, 2, 11, and 16 are rejected under 35 U.S.C. 103(a) as being made obvious by Spengler et al. (International Journal of Mass Spectrometry and Ion Process, 1997, Vol. 169/170, p.127-140) in view of Itoh et al. (US 4,835,312; Issued May 30, 1989) and further supported by Ness et al. (US 6,027,890; Filed July 22, 1997). This rejection is necessitated by amendment.

Spengler et al. teach method of peptide sequencing of charged derivatives using MALDI-PSD [Abstract]. More specifically, Spengler et al. provide polypeptides comprising at least one N-terminus [Section 2.2.1], addition of acidic derivatizing agent to produce a derivatized analyte [Section 2.2.2, Fig. 1], and analyzing said derivatized analyte products using MALDI-PSD

[Section 2.2.4] and [Fig. 5], as in claims 1, 2, and 11. Spengler et al. also teaches cleaving of polypeptides [Section 2.2.2.], as in claim 16.

Spengler et al. do not specifically teach the use of sulfonic acid, as recited in claims 1 and 11.

Itoh et al. teach a plurality of reagents for producing N-substituted and N,N-disubstituted amide compounds [Abstract]. More specifically, Itoh et al. teach the species of sulfonic acid that are mixed with amides to reduce side chain formation [Col. 3, lines 15-40] and [Col. 4, lines 40-45], which is a teaching for sulfonic acid as in claims 1 and 11.

Thus it would have been obvious to someone of ordinary skill in the art at the time of the instant invention to practice the invention of Spengler et al. using sulfonic acid taught by Itoh et al., where the motivation would have been to use derivatizing reagents that minimize side-chain reactions as taught by Itoh et al. [Col. 2, lines 60-69], thereby increasing spectral resolution. Further motivation for the use of sulfonic acid to improve mass spectral analysis is provided by Ness et al., who teach the use of sulfonic acid to increase the relative sensitivity of an analyte being detected by mass spectrometry [Col. 16, 35-42]. One of ordinary skill in the art would have had a reasonable expectation of successfully combining the method of Spengler et al. using sulfonic acid derivativ taught by Itoh et al. in view of Ness et al. [Col. 16, 35-42].

CONCLUSION

No Claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1631

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Whaley whose telephone number is (571)272-4425. The examiner can normally be reached on 9:30am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached at 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pablo S. Whaley

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Art Unit 1631
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